



# Gartner Assignment

*Author: Servando Torres*

Question.

***Recommendation for a solution for creating, deploying and optimising a solution that will spend marketing budget in the most efficient manner across thousands of online campaigns on daily bases?***

Answer

I'd like to break down the question and highlight the key components we should consider when developing our solution. These elements should be present from the planning stage through to the solution's execution:

1. Making decisions based on data
2. Reusability
3. Automation
4. Ongoing monitoring and open communication among stakeholders

Making decisions based on data: It's essential that we use the data we have to make informed decisions.

Reusability: Given that Gartner Digital Markets is responsible for managing thousands of online campaigns, we should create a system of reusable assets (algorithms, templates, models, measurement tools) to save time in development and focus on evaluating each campaign's effectiveness using key indicators like ROI or revenue per click.

Automation: It's important to have automated responses throughout the system, given the daily nature of deploying campaigns.

Ongoing monitoring: Regularly checking the effectiveness of campaigns using various indicators and making real-time adjustments, like changing budgets or using different channels, is key to our success.

With these components in mind, here's my suggested approach:

1. Set clear goals and measurements: Translate marketing goals into specific objectives and numbers that we can optimize, such as ROI, revenue per click, or conversions per session.
2. Organize campaigns into segments: As not all campaigns share the same goals, it's important to group them based on their purpose. Start by categorizing campaigns according to the customer lifecycle journey, focusing on acquisition, maximization, and retention.
3. Use customer journey maps and campaign templates: Analyze how customers interact with our platform and use campaign templates to create targeted marketing actions that influence specific points in their journey.
4. Apply AI and machine learning techniques for automation, prediction, and optimization: Use methods like marketing mix modeling to measure and optimize ROI across multiple campaigns. Keep in mind saturation effects and the law of diminishing returns when allocating budgets across channels and activities. This will lead to better budget allocation and increased revenue across marketing activities, as well as an improved pricing strategy across the two-sided platform. Finally, utilize forecasting models to predict sales and other features over time.
5. Consider multi-touch attribution: Acknowledge that customer journeys differ across countries, sites, and channels, and account for the impact of multiple touchpoints.
6. Monitor performance continuously: Use techniques like A/B testing to track how well our campaigns are performing in real time

Tools that come to mind to achieve this goal:

Data Infrastructure:

Data warehouses and Data lakes that have the potential to use data efficiently. Examples could include Snowflake, Databricks, AWS Redshift, and Google BigQuery.

#### Data Processing:

Since the nature of the business model of Gartner Digital Markets requires real-time and large-scale data processing, engines like Spark, Kafka, or more ad-hoc tools like dbt can be used.

#### Machine learning frameworks

Pytorch, Tensorflow, Xgboost, Prophet

#### Resource management:

Docker

#### Experiment and Model management:

Tools to track performance and production metrics like MLflow or Weights & Biases

Continuous development and continuous integration to fully test any model in production:

Jenkins, GitHub Actions

#### Marketing-focused tools:

Tools to track website traffic and performance metrics like Google Analytics.

Google Ads: Use Google Ads for search engine marketing, display ads, and remarketing campaigns.

#### Custom A/B testing tools

Attribution Modeling Tools: Google Analytics Attribution Use advanced attribution modeling tools to better understand the contribution of each marketing channel and touchpoint, enabling more informed budget allocation decisions.